

REASON

- **Provide an overview of TWGSS:**
 - **History**
 - **Principles of Operation**
 - **Safety Regulations**
- **Provide outline of training course**

TRAINING OBJECTIVE

- **In a classroom environment, given a student handout and TM 9-6920-709-12&P-1-1, you will learn the purpose of the TWGSS training course and be familiar with safety regulations pertaining to the course.**

PURPOSE OF COURSE

- **Train tank crews to use TWGSS.**
- **Teach instructors to conduct TWGSS training.**
- **Train support personnel on TWGSS.**

WHY TWGSS?

- **TWGSS was developed to provide tank crews with a tool to train precision, degraded, and battle sight gunnery engagements and conduct force-on-force exercises, without using limited resources.**

WHAT IS TWGSS ?

- **Strap-on laser-based training device that allows full crew interaction when conducting precision gunnery training**
- **Allows crew to train with all components of M1/M1A1 FCS**

TWGSS HISTORY

- **MILES not precision gunnery training device**
- **Armor and Infantry Schools developed requirements**
- **1986 live fire test**
- **1988 first contract awarded**
- **1993 new contract awarded**
- **1995 fielding begins**

TWGSS FEATURES

- **Full fire control interface**
- **Replicates main gun and coax engagements**
- **Realistic simulation of ballistics and time of flight for each ammunition**
- **Visual effects in GPS day, GPS thermal, and GAS**
- **Loader function with adjustable loading times**
- **Transparent to crew during training**

TWGSS CAPABILITIES

- **Engage stationary or moving targets from a stationary or moving tank**
- **Panel gunnery or force-on-force capability**
- **Tracking training**
- **Scaled gunnery training**
- **Tamper resistant**
- **Full AAR capability**
- **Adjustable ammunition loads**

PRINCIPLES OF OPERATION

TWGSS COMPATIBILITY

- **Precision Gunnery System (PGS) for BFV and LAV**
- **AGS TWGSS**
- **MILES equipped with retro reflector units**
- **Panel targets equipped with retro reflector units and LTIDs**
- **ITGS (Hoffman Device)**

TWGSS SUB-SYSTEMS

- **TWGSS consists of:**
 - **Firing System (FS)**
 - **Target System (TS)**
 - **Training Data Retrieval System (TDRS)**

FIRING SYSTEM

- **Firing System consists of:**
 - **Transceiver unit**
 - **TBOS System**
 - **Vehicle interface**
 - **RSI**

FIRING SYSTEM

TARGET SYSTEM

- **Target System consists of:**
 - **Target computer unit.**
 - **Retro detector units.**
 - **Hull defilade detector units.**

TARGET SYSTEM

TRAINING DATA RETRIEVAL SYSTEM

TRAINING DATA RETRIEVAL SYSTEM

TRAINING DATA RETRIEVAL SYSTEM

TRAINING DATA RETRIEVAL SYSTEM

GENERAL SAFETY REGULATIONS

- **Mount and dismount over left front fender**
- **Maintain 3 points of contact on top of tank**
- **No smoking within 50 meters of tank**
- **Do not go over or under gun tube**
- **Ensure elevation lock and turret traverse lock engaged before working under main gun**
- **Ensure GTD in MANUAL**
- **Ensure LRF eye-safe laser filter (ELF) is installed**
- **Ensure use of proper hearing protection**
- **Observe safety regulations for Hoffman Device, if used**

LASER SAFETY

- **TWGSS uses a conditionally eye safe laser (Class 3a)**

WARNING

Transceiver unit has an eye-safety classification of 3A. During operation, DO NOT view the transceiver unit with an unaided eye for an extended period of time. DO NOT AT ANY TIME view the transceiver unit with an aided eye, i.e., optics which magnify from a distance less than 25 meters.

COURSE LESSONS

- **Introduction to TWGSS**
- **Preparation of M1/M1A1**
- **Preparation for operation (PMCS)**
- **Installation of TWGSS**
- **Startup and alignment**
- **Operation of TWGSS**
- **Post Operational Procedures**
- **Troubleshooting**
- **Preparation of Targets**

COURSE LESSONS

- **Operation of Control Gun (CGUN)**
- **Presentation of Equipment**
- **Training Data Retrieval System (TDRS) Computer Unit**
- **Setup**
- **After Action Review (AAR) List**
- **After Action Review (AAR) Map**

SUMMARY

- **Purpose and outline of course**
- **TWGSS purpose and benefit**
- **General safety regulations**
- **Administrative information**

CLOSING STATEMENT

- **This block of instruction has prepared you to understand the concept of TWGSS and the safety procedures pertaining to its operation.**